

THEATRE MODEL

Introduction

Theatre Royale is a theatre in the suburbs of London. A show is performed on Fridays, Saturdays and Sundays nights and on the other days the theatre is closed although on some days I go in to check the email and the post to see if anyone has inquiries.

The problem is that far too much time is spent on calculating the income made by the theatre by hand because all the sums are laborious and take a long time to work out by hand or even with a calculator so a computer is needed because it could save lots of time because tedious sums can be saved as a formula and used again and again.

This model will be very useful to Theatre Royale because it will enable me to manage and calculate my income (profit or loss) easily, quickly and effectively, as I will explain. On a computer after checking that all my formulas are correct **once** I can save the correct formulas so there will be a very small chance that any of my figures and end results will be incorrect whereas doing it by hand I had to check if my figures were correct **every time** I worked out any sum if I wanted to stop mistakes occurring. So an advantage is that a computer cuts down the amount of mistakes happening in a much shorter time. Also on a computer my data will be clear, important data can be highlighted and any corrections I make won't be seen, whereas when I used to work out the figures on paper it was very messy with crossings out. It was unclear what I was trying to do, to anyone else who looked at the paper. So another advantage is it will be much clearer and easier to read. All these advantages also contribute to saving time. So before lots of time was being wasted (**time is money**) which could have been used to help the theatre in other aspects and therefore produce more money by having more time. So this model will be cost effective. Also using a model I can see if I changed a variable or input how would it affect my overall income. For example 'What if I paid the cleaners less?' or 'What if I raised the prices of tickets?' how would these affect my overall income.

So using a computer will:

- ⊕ **Save lots of time**
- ⊕ **Stop most mistakes occurring**
- ⊕ **Make it clear and easy to read and use**
- ⊕ **Be Cost effective**
- ⊕ **Enable me to see if I changed a variable or input how it would affect my overall income**

The people who will use this model would be me (the manager) and any other employee who I ask to enter some data or check a figure. This means that even though some of my employees will have knowledge of computers some won't have a lot of experience in using computers so it must be easy to use. I will combat this problem in the analysis.

Analysis

Research

Before beginning this project I did some research. I contacted the Milfield Theatre by e-mail address asking for information on different types of tickets and the ticket prices. They sent me back some useful information on ticket prices, which I will use in my project:

	Adults	Concessions*
Performance on Friday	£12.00	£10.00
Performances on Saturday and Sunday	£13.50	£11.50
* Concessions include children under 16, senior citizens and NUS students.		

They also gave me their telephone number (020 8803 5283). I also visited their Website address (<http://www.milfieldtheatre.co.uk/>) Their Website was very good. It was very well presented. It was colourful and titles were big and bold. There were pictures

separating text or in spaces and watermarks. Maybe I could use a picture or watermark of a theatre or two masks in my model, just to keep the users mind focused and interested but still keeps it on the same theme. Also the Website was simple and clear. It kept me interested and it wasn't hard to follow. These are all things I will need to use to make my model clear, concise and interesting to the user.

Users

The people who would use this model are the manager and any other employee who works in the theatre. This means that even though some of the employees will have a good knowledge of how to use computers some of them won't have a lot of experience in using computers so it must be easy to use. For example they must know exactly where to put their data so some cells could be highlighted to make it easier to see. Also I will protect important formula so people won't accidentally change any of them and ruin the calculations.

Prototype

My model will start off with the different inputs, which will be the fixed costs and variable costs from like paying the cleaners, the actors, refreshment and the income from tickets and different refreshments. The total costs will then be worked out and so will the total income. The total costs will then be subtracted from the total income to see if I have made a profit or if I have made a loss. This will be used as a template on three sheets one for Friday, one for Saturday and one for Sunday. On a fourth sheet I will have a summary of the week with all the totals of different variables for example total number of tickets sold for the whole week. Also listed here will be the profit/loss for the whole week.

The model will be reusable by using named cell addresses, which means that instead of writing the cell name e.g. B3 you can just write a name. Data Validation will be used on some of the input cells to stop incorrect data being written and also the message inside the comment box must be descriptive but concise.

Functions and Formulas

These are the processes in the model and they use the inputs to produce the outputs.

I will use different functions in the formula for my model. For example I will use the SUM function to work out the total costs and to work out the total income for the separate days and the totals for

the Summary Sheet (sheet 4) and the IF function will also be used to produce in designated cells either **PROFIT**, if the total costs are less than the income, or **LOSS**, if the total costs are more than the total income. This is an example of one of the outputs. This is one reason why I will use Microsoft Excel because it has these different functions and formulas on it whereas on other pieces of software like Microsoft Word these can't be used. I will also use macros as a way of jumping from one sheet to another by having buttons at the bottom of each sheet saying for example **Go to Summary sheet** or **Go to Friday sheet**. Visual Basic Editor will be used to make the macros. This will make navigating the model very easy for people who don't have a good idea of how to get to different sheets.

Objectives

Based on my research above, my solution for the theatre model will have to meet the following criteria:

- ✦ It must be well presented and must keep the users interest:
 - 1) Must be colourful
 - 2) Titles must be big and bold
 - 3) Pictures and watermarks relating to the theme of a theatre
 - 4) Tables must be clearly outlined so it can be clearly seen which piece of data goes with which table.
 - 5) It should be spaced out and not squeezed together so it is clear for the user
- ✦ The formulae must be protected to avoid any of them being accidentally being changed.
- ✦ Cells, which are important, should be highlighted to bring attention to them.
- ✦ The model must be reusable – named cell addresses can be used to give cells a name so instead of writing the cell name you can write the name.

- ⊕ The model must calculate the total costs for the different days.
- ⊕ The model must calculate the total income for the different days.
- ⊕ The model must calculate the profit/loss for a single day by subtracting the costs from the income.
- ⊕ The model must calculate the cumulative profit/loss for the day and the previous days.
- ⊕ The model must either produce the word PROFIT or LOSS in designated cells using the IF function, whether a profit or a loss is made.
- ⊕ A user must be able to navigate and go around the model with ease so macros should be used because they can link the different sheets with buttons.
- ⊕ The model should not pose any health risks, whether it is radiation or making an employee strain his/hers eyes therefore causing headaches.
- ⊕ Data validation will be used on input boxes such as tickets sold. Also the message inside the comment box should be clear, descriptive but concise.
- ⊕ Different sheets should be labelled so people know what is on the different sheets.
- ⊕ Backing up (saving) the information stored must be possible to avoid data loss if the system of hardware fails or in the event of a security breach.
- ⊕ The model must be able to show how a change in one or more inputs will affect the overall income. For example if I raised concession ticket prices but lowered ice cream prices how would this affect my income?